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L2 children do not fluctuate: Production and on-line processing of indefinite articles in Turkish-speaking child learners of English

Vasiliki Chondrogianni, Theodoros Marinis

Abstract

Studies on the acquisition of indefinite articles by sequential bilingual (L2) children have provided mixed results regarding whether L2 children omit or substitute indefinite articles. In the present paper, we examined whether Turkish-speaking child L2 learners of English omitted or substituted indefinite articles by using a production task that comprised two different semantic contexts, the referential specific and the non-referential predicational context. We also examined the source of children's errors by using a self-paced listening task where children heard grammatical sentences where indefinite articles were present and ungrammatical sentences with omitted indefinite articles. L2 children's performance was compared with that of two monolingual (L1) groups: an age-matched L1 group and a younger L1 group. Results showed that all groups of children distinguished between the two semantic contexts in both the production and the on-line processing tasks. At the same time, errors in both the older L1 and the L2 groups consisted in omission of indefinite articles whereas the predominant error for the younger L1 children was substitutions. In the on-line processing task, all groups of children detected the ungrammaticality related to article omission. We interpret these results within the Feature Reassembly and the Full Transfer/Full Access Hypotheses.

1. Introduction

The acquisition of articles by monolingual (L1) English-speaking children and adult second language (L2) learners of English has received extensive attention in the literature (e.g. Brown, 1973; Maratsos, 1976; Schafer & de Villiers, 2000; White, 2003). Studies with L1 children have shown that the acquisition of English articles is challenging for pre-school children. Young children tend to substitute the indefinite with the definite article in specific contexts. For example, in the sentence *I saw a man in the street today*, the indefinite noun phrase *a man* refers to a specific individual seen by the speaker but not the hearer. These contexts require that the speaker evaluates whether or not knowledge of a particular entity is shared by both the hearer and the speaker, or by the speaker only (Maratsos, 1976; Schafer & de Villiers, 2000). To date, only three studies have focused on the acquisition of articles by child L2 learners of English (Chondrogianni, Vasić, Marinis, & Blom, 2015; Ionin, Zubizaretta, & Philippov, 2009; Zdorenko & Paradis, 2008, 2011). These studies have provided mixed results as to whether L2 children omit articles when their L1 does not have overt markers for definiteness, and whether they fluctuate in their article use, when specificity and definiteness are conflated in a single context. These studies are also inconclusive as to the underlying nature of the children's article-related errors, that is, whether they are output-related or whether they reflect deeper problems with grammar. The difference in the results is further accentuated by the distinct methodologies that these L2 studies have used (oral vs. written production tasks).

This is the first study to focus specifically on indefinite article production in different semantic contexts in a group of English L2 children whose L1 Turkish encodes definiteness and specificity using different linguistic means than the L2. This study further compares L2 children to both younger and age-matched L1 controls. Finally, we examine the nature of the

L2 children's errors by using an on-line processing task with grammatical violations involving indefinite articles.

2. Indefinite articles in English and Turkish

Definiteness and specificity are semantic notions realised crosslinguistically through the use of different linguistic means, for example free morphemes, such as definite and indefinite articles, bound morphemes, such as case marking, or via word order alternations. In the present paper, we adopt the definitions for *definiteness* and *specificity* proposed by Ionin, Ko and Wexler (2004). According to Ionin et al. (2004), for a Determiner Phrase (DP) to be [+definite], the speaker and hearer presuppose the existence of a unique entity in the set denoted by the noun phrase (NP). According to the same account, a DP is [+specific] when the speaker intends to refer to a unique individual in the set denoted by the NP, and considers this individual to possess some noteworthy property (Ionin et al., 2004). This account by Ionin et al. (2004) collapses the notions of *specificity*, as the identifiability of the entity denoted by the DP, and of *referentiality,* as the degree to which the indefinite noun phrase signals a particular member of a class or general class membership (Fodor & Sag, 1982; Maratsos, 1976), under a single notion of *specificity*.

English uses a definite article, *the*, and an indefinite article, *a*, to encode (in)definiteness. Definite articles are used when the entity is identifiable by both the speaker and the hearer, as in (1).

(1) A frog and a dog were playing by a pond. *The frog* jumped into the water and *the dog* ran away.

Indefinite noun phrases are used when the noun phrase is not identifiable by both the hearer and speaker. The use of the indefinite article in (1) signals that the entities *a frog* and *a dog* are identifiable by only the speaker, who uses the indefinite noun phrases to introduce discourse referents (Heim, 1982). This function of indefinite noun phrases renders them referential, as the speaker had a specific *frog* and *dog* in mind, and these indefinite noun phrases are called *specific* indefinites.

Indefinite noun phrases in English can also take a non-specific and non-referential reading as in (2a), whereby the indefinite noun phrase does not signal a specific member within a class but merely denotes class membership.

(2) a. A policeman has a bat.

b. A policeman with a bat was walking down the street.

In (2a), the non-referential noun phrase *a bat* constitutes the complement of the predicate *have* and is within the scope of another indefinite noun phrase *a policeman*. This use of indefinite articles is called non-referential predicational, because the indefinite noun phrase is within a predicate and because the speaker does not refer to a specific class of bats (Carlson, 1977; Schafer & deVilliers, 2000). This contrasts to (2b) where the indefinite noun phrases refer to a specific *policeman* and *bat*, and are thus referential specific.[1]

Unlike head-initial, analytic English, Turkish is a head-final, agglutinative language without an overt marker for definite articles (Göksel & Kerslake, 2005; Kornfilt, 1997). Turkish has an indefinite article *bir* which is homophonous with the numeral one (Göksel &

[1] The term *predicational* here is taken from Schafer and de Villiers (2000) and de Villiers et al. (2000) and it is used in its broad sense that the indefinite noun phrase *a bat* is within the predicate of the sentence (2).

Kerslake, 2005; Kornfilt, 1997). When *bir* is unstressed, it functions as an indefinite article, whereas when it is stressed, it functions as a numeral. Turkish marks specificity through the use of accusative case on the noun (Enç, 1991). Accusative case-marked NPs can be both [+definite] [+specific], as in (3), as well as [-definite] [+specific], as in (4).

(3) Ayşe kitap ve dergi satın aldı. Dün Ayşe kitab-ı okudu.
Ayşe book and magazine bought.3PAST. Yesterday Ayse book-ACC read.3PAST
'Ayse bought a book and a magazine. Yesterday, she read the book.'

(4) Dün sokakta bir adam-ı gördüm. O arkadaşımdı.
Yesterday street-LOC a.INDEF man-ACC saw.1PAST He my friend was.
'Yesterday, I saw a man in the street. It was my friend.'

In (3), the noun phrase *kitab-ı* refers to the entity introduced previously in discourse using a bare noun. The accusative case on *kitab-ı* renders the noun phrase both [+definite] and [+specific] and fulfils an anaphoric function in discourse. In (4), the noun phrase *bir adam-ı* refers to a specific man known to the speaker but not the hearer. In this context the indefinite phrase is referential specific (Enç, 1991; Erguvanlı, 1984; Nilsson, 1985, among others).[2]

When the context is non-specific and non-referential, then the use of the indefinite article *bir* is optional, as example (5) indicates (Öztürk, 2005).

[2] But see Kelepir's (2001) dissertation for arguments for the non-referential status of accusative marked indefinite noun phrases especially in the context of negative quantifiers.

(5) Her kız dün (bir) kitap okudu

Every girl yesterday (a) book read.3PAST

"Every girl read a book/books yesterday"

In both cases, the optional presence of an indefinite article and the lack of accusative case in the examples renders the noun phrases non-specific. Non-referential non-specific objects are not marked for accusative case and have different distributional properties from referential accusative marked objects, e.g. they incorporate into the verb, cannot scramble and take obligatory narrow scope (Kennelly, 1994). In (5), the sentence can be interpreted in that every girl read a different non-specific book and that they were engaged in a book-reading activity.

The non-specific predicational English context in (2a) would be translated in Turkish into a partitive construction, as in (6). In this context, the indefinite article *bir* would again be optional. Notice, however, that the presence of the accusative case is obligatory on the noun *cop-u* 'bat' because of the nature of the partitive construction in Turkish (Kornfilt, 2009).

(6) Polisin (bir) cop-u var.

Policeman (a.INDEF) bat-ACC has

'A policeman has a bat'.

In (6), the presence of the accusative case is obligatory even though the sentence can take a non-specific reading. According to Kornfilt (2009: 89-92), the obligatoriness of the accusative case in this context is not linked to specificity; rather, it fulfils syntactic well-formedness constraints associated with the features of the noun in the partitive construction. As a result, the case markers are neutralised as specificity markers in this context to fulfil a syntactic requirement (see Kornfilt (2009) for a more detailed explanation of the phenomenon).

Following the above analyses, in the present study we investigated the production of indefinite articles in two semantic contexts, the referential specific and the non-referential predicational context to explore L2 influence on article production. If the L1 Turkish-speaking learners of English transfer the referential properties of the Turkish indefinite article, then we would expect them to perform better on the referential specific contexts because in these contexts the indefinite article is obligatory in both Turkish and in English. Conversely, their performance on the non-referential predicational condition should be lower because in this context the indefinite article *bir* is optional in Turkish, yet obligatory in English.

3. L1 acquisition of English indefinite articles

As noted above, the L1 acquisition of articles has been extensively studied in both naturalistic and experimental studies in English (Brown, 1973; de Villiers & de Villiers, 1973; Emslie & Stevenson, 1981; Maratsos, 1976; Schaeffer & Matthewson, 2005; Schafer & de Villiers, 2000; van Hout, Harrigan, & de Villiers, 2010). These studies have shown that the morpho-syntactic properties of English articles are acquired by the time children are three years old (Brown, 1973; de Villiers & de Villiers, 1973). However, their semantic properties may take longer to master.

A number of studies have reported that pre-school English-speaking children overuse definite articles in the context of indefinites (between 25% and 50% of the time) (de Cat, 2011a; Schaeffer & Matthewson, 2005; van Hout et al., 2010). These errors have been interpreted as egocentric errors, whereby pre-school children cannot take the hearer's perspective into consideration. Namely, pre-school children are assumed not to take into account that the entity introduced into the discourse is only known to the speaker and not the

hearer and, therefore, the indefinite article and not the definite should be used to introduce a new entity.

Fewer studies have focused on whether or not the different semantic contexts affect indefinite article production in children (Chondrogianni & Marinis, 2015; de Villiers et al. 2000; Schafer & de Villiers, 2000). Schafer and de Villiers (2000) examined, among others, the production of indefinite articles in a group of 37 3- to 5-year old children in the specific indefinite context, as in (7), and the non-referential predicational context, as in (8).

(7) Specific indefinite

Experimenter: I bet you have something hanging on the wall of your room. What is it?

Child (expected response): A picture.

(8) Non-referential predicational

Experimenter: Think of a policeman. Tell me what he has.

Child (expected response): A bat.

Schafer & de Villiers (2000) calculated the children's accuracy out of correct, omission, and substitution errors and excluded legitimate uses of bare plurals, proper names, possessives and other responses. The results showed ceiling performance on the non-referential predicational (between 87.5% and 97.5% depending on the age group), as well as on specific indefinite articles (between 86% and 97%). The majority of errors across all conditions consisted in omissions; very few substitutions were observed in the non-referential condition and no substitution errors in the specific indefinite context. De Villiers et al. (2000) examined the production of indefinite articles in a smaller number of children (N=17) with a larger age range, i.e., 3- to 7-year-old children using the same task as Schafer and de Villiers (2000). De

Villiers et al. (2000) presented accurate responses out of all responses, including licit uses of bare plurals, proper names, possessives and other responses. These analyses showed that the most erroneous responses were in the specific indefinite use of articles with an average accuracy of 35.3% across all age groups. The non-referential predicational use of *a*, on the other hand, was almost error-free (94.1% accuracy). However, when we calculated the results using the same types of analysis used in Schafer and de Villiers, the accuracy in the use of specific indefinites was 70.6% with the remaining 29.4% being errors of omission, and the accuracy in non-referential predicational context was 100%. This is closer to the results by Schafer and de Villiers. The difference between the two studies could be attributed to the differences in the number of children and age range in each study. Since the two studies do not provide standard deviations and de Villiers et al. do not provide results per age group, it is very difficult to infer whether the difference between the two studies is meaningful.

Chondrogianni and Marinis (2015) tested a group of young 5-year-old and a group of older school-aged L1 English-speaking children on specific and predicational indefinites using a task similar to that of Schafer and de Villiers (2000) and to the one reported in the present study. They found that both the younger and the older L1 children had better performance on the non-referential compared with the specific indefinite condition (approx. 70% in both groups for the specific indefinite vs. approx. 82% for the predicational). Chondrogianni and Marinis (2015) explain these results by suggesting that the non-referential predicational condition involved the use of indefinite articles in a context that presupposed no speaker or hearer knowledge, but that established an associative relationship between two different indefinite noun phrases, e.g. policeman-bat. It seems then that establishing an associative or bridging (Avrutin & Coopmans, 2000) relationship between two entities facilitated article production. Finally, the children in this study did not produce any substitution errors similarly

to the de Villiers studies. The lack of substitution errors with indefinite articles in these studies shows that young children do not have problems with the [±hearer] distinction and that their errors are not egocentric. The lack of substitution errors may also be task-related. These studies did not involve the use of visual props, which can render the referents more salient and possibly known to the speaker and hearer regardless of the linguistic context and may lead to substitution errors.

In the present study, we compared the performance on indefinite articles in school-aged L2 (L1 Turkish/L2 English) speaking children with that of school-aged and pre-school L1 English-speaking children.

4. Child L2 acquisition of English articles

To date, only three studies have investigated the acquisition of articles in child L2 learners of English (Chondrogianni et al., 2015; Ionin et al., 2009; Zdorenko & Paradis, 2008, 2011).

Zdorenko and Paradis (2008) investigated definite and indefinite article production using a narrative task with picture props in two groups of 4- to 7-year-old children. One group comprised children whose L1s had articles, e.g. Spanish, Arabic and Romanian, and the other group children with L1s without articles, e.g. Cantonese, Japanese and Mandarin Chinese. Children were tested longitudinally across five rounds which occurred every six months. At the beginning of testing, the children had a mean age of 5;4 years and nine months of exposure, and at the final testing round they had a mean age of 7;4 years and approximately three years of exposure. Definite and indefinite articles were tested in [+specific] contexts only given the nature of the narrative task. The children in the [+article] group reached above 90% accuracy with *a* in indefinite contexts after 24 months. However, the children in the [-

article] group did not reach the same accuracy level until the end of the study (Zdorenko & Paradis, 2008: 240). In terms of errors, Zdorenko and Paradis (2008) reported that children from a [+article] L1 predominantly substituted the indefinite with the definite and rarely omitted (less than 5% of omissions at round 5). The children from [-article] L1s substituted the indefinite with the definite article (approximately 25% of the time at round 5), and they omitted in the indefinite articles context approximately 5% of the time.

Ionin et al. (2009) investigated definite and indefinite article production in 10- to 12-year-old English L2 children with L1 Russian learning English within a classroom setting in Russia and with five years of exposure to English on average. Ionin et al. (2009) used a written gap-filling test, which was an adaptation of the Ionin et al. (2004) forced-choice task with adult L2 learners. In the written gap-filling task, L2 learners could also provide a null article. Focusing on indefinite articles, they were elicited in the [−definite, +specific] and [−definite, −specific] contexts. Ionin et al. (2009) reported very few article omissions, and the final analysis comprised primarily of substitution errors of the indefinite with the definite. Ionin et al. (2009) found definite article overuse in indefinite article contexts in two out of six items on average within the child L2 group. In the indefinite article contexts, L2 children had higher accuracy on the [-specific] compared with the [+specific] contexts.

However, as Zdorenko and Paradis (2011) note, the lack of omission errors in the Ionin et al. (2004, 2009) studies may reflect task effects, given that in both studies the researchers used a forced choice elicitation task where learners had to provide a/the or null articles. This task may have given rise to more substitutions than omissions, which have been reported in studies with oral production data with adult L2 learners from [-article] L1s (Goad & White, 2004, 2006; White, 2003). The difference in methodologies across studies paints a rather complicated picture regarding how transfer and fluctuation emerge in L2 learners.

Chondrogianni et al. (2015) examined production and processing of definite articles in L1 Turkish L2 English 6- to 8-year-old children using similar tasks to the ones used in the present study, i.e., a production task with short stories but without visual props and an on-line processing task involving grammatical sentences with definite articles and ungrammatical sentences where definite articles were omitted. Definite articles were elicited in two semantic contexts: an anaphoric context, where the article referred to an already introduced discourse antecedent, and a bridging context, which involved first mention definite articles (Hawkins, 1991). Results showed that the L2 children's accuracy depended on the semantic properties of the definite article. L2 children performed better on the bridging use of articles compared to the anaphoric one. This was in line with previous studies with L1 children (Schafer & de Villiers, 2000). Furthermore, the L2 children were sensitive to definite article omission in the on-line processing task despite variable production, a pattern attested also for the acquisition of tense in English (Chondrogianni & Marinis, 2012), gender in Dutch (Blom & Vasic, 2011), and definite articles and clitic pronouns in Greek (Chondrogianni, Marinis, Edwards & Blom, 2015).

The above-mentioned results have been interpreted within different accounts on article omission and article misuse in L2 learners of English, as well as on variation in performance depending on the L1. To explain the article omission in their study, which was higher for the [-article] compared to the [+article] group, Zdorenko and Paradis (2008, 2011) argued for the Full Transfer/Full Access Hypothesis (FT/FAH) (Schwartz & Sprouse, 1996), according to which L2 learners whose L1 does not have overt articles will initially transfer the L1 syntactic properties in the form of omissions of articles.

However, the L2 children in the Zdorenko and Paradis (2008, 2011) studies not only omitted but also substituted the indefinite with the definite article at later stages of

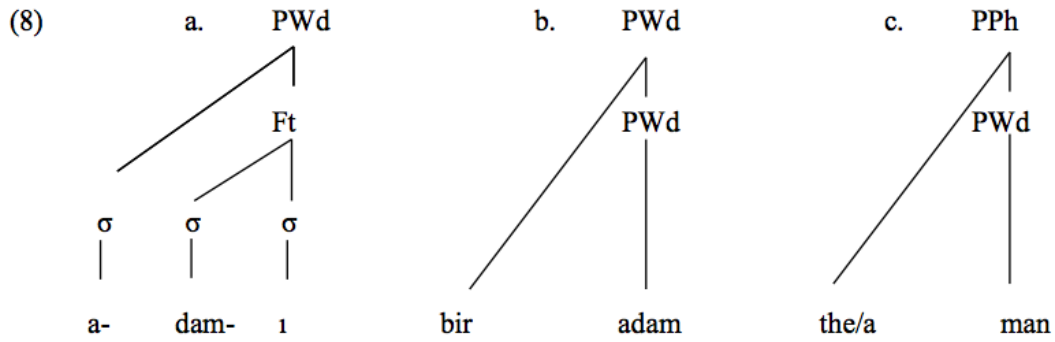
acquisition, similarly to the Ionin et al. (2009) study. For this reason, Zdorenko and Paradis (2008) interpreted their results within the Fluctuation Hypothesis (FH) as well, according to which L2 learners whose L1 does not have an overt marker for (in)definiteness in the form of articles will conflate specificity with definiteness in English (Ionin, 2004; Ionin et al., 2009). The FH was initially proposed within the context of adult L2 acquisition (Ionin et al., 2004), but it later expanded into child L2 acquisition (Ionin et al., 2009).

Zdorenko and Paradis (2008) argue that the FH applies not only to learners of [-article] languages, but also to learners of [+article] languages given that these learners also substituted the indefinite with the definite article. Given that the L2 children from [+article] L1s had higher accuracy on article production compared to the L2 children from the [-article] L1s, Zdorenko and Paradis (2008) argued that L2 children transfer the syntactic properties of their L1, in this case the D category, but not the semantic properties of their L1, and that fluctuation overrides transfer. However, as Ionin et al. (2009) argue, the high proportion of specificity-related errors even in the group of L2 children from [+article] backgrounds in the Zdorenko and Paradis (2008) study may be an artifact of the methodology used. Namely, the presence of the visual context may have rendered the indefinite NPs salient and known to both the hearer and speaker, and thus, triggered the high proportion of specificity-related substitutions.

Chondrogianni et al. (2015) argued that what determines the production of a particular morpheme in the L2 is not merely its presence or absence from the L2 learners' L1, but also the way this feature is *re-assembled* in the L2 and the semantic, prosodic and morphological factors that regulate its production following the Feature Re-assembly Hypothesis (Lardiere, 2009). The Feature Re-assembly Hypothesis (Lardiere, 2009) has been proposed in the context of L2 acquisition but its predictions can also apply to L1 acquisition, given that L1

children also need to assemble the features that are relevant for their target language from the universal feature inventory and appropriately apply them according to phonological, morphological and semantic criteria. This account provides a unified explanation regarding target grammar properties that may guide both L1 and L2 acquisition in a similar manner, and was supported by the finding that the bridging use of definite articles had higher production than its anaphoric use for the L1 and the L2 children, although in both uses the morphological and prosodic properties of the definite article remained the same. These results thus demonstrate that transfer is mediated by the semantic context in which a particular feature is realized and not simply by whether or not a particular morpheme is instantiated in the L1 (Lardiere, 2009).

This asymmetry between the two semantic contexts for the definite articles in the Chondrogianni et al. (2015) study led the researchers to argue against the transfer of the L1 prosodic properties onto the L2 as the mere explanation of the omissions observed with definite articles, as the Prosodic Transfer Hypothesis (PTH) (Goad & White, 2004, 2006) would suggest. According to the PTH, the omission of L2 articles is related to how morphological information is prosodically organized in the L2 in relation to the L1 properties. In Turkish, definiteness is marked with accusative case, a word final morpheme which attaches to the right edge of the stem and appears within the Phonological Word (PWd), as in (8a). The indefinite article *bir* in Turkish is considered an affix which also attaches outside the PWd level and not at the Phonological Phrase level (PPh) level (Goad & White, 2004), as in (8b). In contrast to Turkish, definite and indefinite articles in English are free clitics (Guasti, Gavarrò, Lange & Caprin, 2008); they appear on the left edge of the PWd and link at the PPh (Goad & White, 2004), as in (8c).



According to this analysis, free clitics are not permitted in Turkish at either edge, whereas they are permitted at the left edge in English. However, according to Goad and White (2004), Turkish L2 learners of English should be able to conform to the L2 prosodic representation (8c) via a left adjunction process that is already present in the L1 for affixal clitics, i.e. (8b). Crucially, what is important for the PTH is how functional material is organized into prosodic structure in the L1 and the L2; whether or not a particular functional category is overtly realized in the L1 is irrelevant.

Finally, Chondrogianni et al. (2015) interpreted the production-processing asymmetry as providing evidence for the Missing Surface Inflection Hypothesis (MSIH) (Haznedar & Schwartz, 1997), according to which problems with inflectional morphology may not reflect underlying problems with the grammatical representations of L2 learners, but rather difficulties in the morpho-phonological spell-out of L2 features.

To date, all studies on the child L2 acquisition of indefinite articles come from L2 children whose L1 either has overt indefinite articles or has no overt articles. This is the first study to investigate indefinite articles in English L2 children with L1 Turkish which has a more intricate definiteness and specificity system.

5. Present study

The present study addresses omission and fluctuation of English articles by examining English L2 children with L1 Turkish, a language that encodes indefiniteness and specificity, albeit differently from their L2 English. The study addressed the following research questions:

1) Does specificity affect indefinite article production in L2 and L1 children in terms of accuracy and error type?
2) Is sensitivity to grammatical violations involving omission of indefinite articles affected by the difference in semantic context in the same group of children?

The hypotheses for the present study are formulated as follows: If children transfer the referential properties of indefinite articles from Turkish to English, we predict higher accuracy on the indefinite specific contexts vs. the predicational contexts given that indefinite articles in Turkish are obligatory in referential specific indefinite contexts, whereas they are optional in non-referential predicational contexts. If L2 children associate specificity, as denoted by the accusative marker in Turkish, with definiteness, which is denoted by definite articles in English, we expect to find more overuse of definite articles in specific indefinite contexts compared to non-specific indefinite ones, as the Fluctuation Hypothesis would predict (Ionin et al., 2009).[3]

If production is susceptible to L2 article semantic properties, then we expect children to have higher performance on the predicational than on the specific indefinite contexts given that the predicational context involves an associative or bridging relationship between a pair

[3] Note that the accusative marker in the predicational context in Turkish has a syntactic function and does not mark specificity (Kornfilt, 2009).

or a part (e.g. a bat) and a whole (e.g. a policeman) (Chondrogianni & Marinis, 2015). This associative relationship has been found to increase accuracy even in the case of definite articles (Avrutin & Coopman, 2000; Chondrogianni & Marinis, 2015). If phonological transfer is at play as the PTH would suggest, then we expect L2 children to equally omit articles across the two semantic conditions.

In terms of the self-paced listening task, if children are sensitive to the grammatical violations induced by indefinite article omission, we expect to find a grammaticality effect manifested as longer latencies on the ungrammatical compared to the grammatical conditions. A grammaticality effect in this task would suggest that children are sensitive to indefinite article omission despite variable article production. Finally, if processing is facilitated by the associative relationship in the predicational condition, then we expect to find shorter reaction times (RTs) in the predicational compared with the specific condition.

6. Method

6.1. Participants

63 children participated in the study: 21 Turkish-speaking English L2 children with a mean age of 7;6 years (range: 72-102 months, SD: 9.4 in months), 30 L1 English-speaking children of similar age (mean: 7;6 years, range: 73-105 months, SD: 9.4 in months) and 12 younger L1 English-speaking children with a mean age of 5;9 years (range: 61-86 months, SD: 7.9 in months). Overall, there was a significant effect of age ($F(2,61)=24.94$, $p<.001$). Post-hoc analysis with Bonferroni correction showed that the L2 children were matched with the older L1 children on age ($p=.1$) (L1-AM group), and both groups were significantly older than the

younger L1 children (p<.001 in both cases). The L2 children were recruited from schools in London and the L1 children from schools in Reading. Both groups of children were attending mainstream English schools in the South East of the UK. Both parents of the L2 children were native speakers of Turkish and the L2 children were primarily exposed to input in Turkish at home. Systematic exposure to L2 English coincided with nursery attendance. The L2 children had a mean age of onset between 2;5 and 4 years and their exposure to English was three years on average. The Test of Reception of Grammar 2 (TROG 2) (Bishop, 2003) and the British Picture Vocabulary Scales II (BPVSII) (Dunn, Dunn, Whetton, & Burley, 1997) were used to examine the children's general grammatical and vocabulary abilities (Table 1). We used the raw scores to compare the L1 and the L2 children's abilities. Two one-way ANOVAs (TROG: $F(2,61)=16.01, p<.001$; BPVS: $F(2,60)=34.68, p<.001$) revealed that the L2 children were less accurate than the L1-AM children in both tasks (TROG2 & BPVSII: p<.001), but did not differ from the younger L1 children (henceforth called the language-matched, L1-LM group) (TROG: p=.07; BPVSII: p=.1).

INSERT TABLE 1 HERE

6.2. Materials

6.2.1. Production task

To assess L1 and L2 children's indefinite article production, we created a production task similar to the Diagnostic Evaluation for Language Variation (DELV, Seymour et al., 2001). In this task, the experimenter read out short stories to the child without using any pictures or props. Each story was followed by a question to elicit indefinite noun phrases in the object position and in different semantic contexts. The indefinite article was elicited in the referential

specific context and the non-referential predicational context, as in (6) and (7) mentioned previously. The full list of items is presented in Appendix 1.

Indefinite articles were elicited through the question *"What...?"* in the non-referential predicational condition and the statement *"Tell me what it is"* in the referential specific condition. The context in the lead-in sentence differed depending on the semantic context. In the referential specific indefinite condition, the context presupposes the speaker's knowledge. In the non-referential predicational condition, the indefinite noun phrase was always the complement of the verb *have* and was in an associative relationship with the noun phrase within the lead-in sentence, e.g. *football player-ball*. In both conditions, the expected answer was an indefinite noun phrase and not necessarily the entire sentence.

All nouns in both studies were inanimate. The nouns in the indefinite referential specific condition were *ball, film, dress, picture, flower, letter*, and in the non-referential predicational condition, the pairs were *fireman-hose, football player-ball, cricket player-bat, climber-rope, tennis player-racket, painter-brush*. The nouns in all conditions were matched for frequency, length (number of syllables), and age of acquisition (below 6, Medical Research Council MRC psycholinguistic database 1997). There were 6 items in each condition (specific, non-referential), and 18 filler items, giving rise to 30 items in total (see Appendix 1).

In terms of scoring, responses involving an indefinite article and the target noun in the indefinite article condition were coded as 'correct'. Substitutions involved definite articles instead of indefinite articles with the target noun. Responses with bare (articleless) target nouns were coded as 'omissions'. Responses with plural nouns, possessives, proper names or pragmatically unrelated nouns, that is nouns not related to the pair, with or without an article were coded as 'other'. Proportion correct, substitutions, omissions and other were calculated out of all four response types (denominator: correct, substitutions, omissions, other). Null

responses, that is responses in which children gave no answer to the question, were excluded from the calculation. The three groups did not differ in terms of null responses in the three conditions. For all three groups, null responses constituted less than 2% of the data.

6.2.2. Self-paced listening task

To assess L1 and L2 children's sensitivity of omission of indefinite articles in the specific and predicational conditions, we used an on-line processing self-paced listening task in which half of the sentences were grammatical and included indefinite articles and the other half contained article omissions, as in (9) and (10).

(9) Indefinite specific condition

This lion is out shopping for something new to wear at the party. The lion / is buying / (a) belt / at the shop / this afternoon.

(10) Indefinite non-referential predicational condition

This is a policeman. A policeman / has / (a) helmet / on his head / every day.

In both indefinite article contexts, all critical sentences had an SVO structure followed by two prepositional phrases (segments 4 and 5 in sentences (9) and (10) above). All critical nouns appeared in the object position (Segment 3) and were inanimate. There were 8 critical nouns per sentence type. The nouns in the on-line processing experiment comprised the 12 inanimate nouns used in the production task plus two more inanimate nouns. The verbs in the pre-critical segments and the nouns in the critical and the post-critical segments were matched between the two conditions for frequency, length, and age of acquisition (below 6 years of age). There were 8 items per condition, giving rise to 16 experimental sentences. There were

also 48 filler items, giving rise to 64 experimental trials in total. A third of the items was followed by general comprehension questions targeting elements of the sentence that were not related to the experimental conditions, such as *Was the bear reading in the garden?*, to ensure that the children were attending to the task (see Appendix 2).

Each participant encountered the grammatical and ungrammatical version of each sentence in a single-case design in two different lists presented in weekly intervals. The presentation of the lists was randomized across participants in order to address any order of presentation effects. The experimental session was preceded by a practice session in which the children were familiarised with the task. To proceed to the experimental session, children had to successfully complete the practice session, which could be repeated twice. All children successfully completed the practice session.

6.3. Procedure

Each child participated in three sessions. In the first session, the baseline and production tasks were administered. In the subsequent two sessions the on-line processing tasks were carried out. The production task always preceded the on-line processing task to avoid making participants aware of the phenomena by exposing them to the ungrammatical sentences within the on-line processing tasks.

7. Results

7.1. Production task

7.1.1. Descriptive statistics

Figure 1 presents the L1 and L2 children's accuracy on the indefinite specific and the indefinite predicational conditions.

INSERT FIGURE 1 HERE

Figure 2 presents the error types on the two conditions, namely omissions, substitutions and other errors.

INSERT FIGURE 2 HERE

To examine whether the L1 and the L2 children differ in terms of specificity we compared the children's accuracy on the indefinite referential specific and the indefinite non-referential predicational conditions, as these two contexts differed in terms of specificity. Consequently, we ran a repeated measures ANOVA with Specificity (referential specific, non-referential predicational) as the within subjects factor and Group (L2, L1-AM-L1-LM) as the between subjects factor. Results showed an effect of Specificity ($F(1,61)=6.49, p<.05, \eta_p^2=.10$), because the non-referential predicational condition had higher accuracy than the referential specific condition and an effect of Group ($F(1,61)=4.64, p<.05, \eta_p^2=.13$). Consecutive pairwise comparisons using Bonferroni correction showed that the L2 children had significantly lower accuracy than the L1-AM children and the L1-LM children ($p<.05$ in both cases). The two L1 groups did not differ from each other. There was no significant interaction between Specificity and Group ($F(2,61)=.67, p=.5, \eta_p^2=.02$).

To examine whether the L2 children differed from the L1 children in terms of errors in the two specific contexts, we ran a repeated measures ANOVA with Specificity (referential specific, non-referential predicational), and Error Type (omission, substitution, other) as the

within subjects factors, and Group (L2, L1-AM-L1-LM) as the between subjects factor. Results showed an effect of Specificity ($F(1,59)=6.49$, $p<.05$, $\eta_p^2=.10$), because all groups had more errors on the referential specific condition compared with the non-referential predicational condition, Group ($F(1,59)=4.64$,$p<.05$,$\eta_p^2=.13$) because the L2 children committed more errors overall than the L1 children, and Error Type ($F(1,59)=9.78$,$p<.001$, $\eta_p^2=.14$). Across all groups, omissions were the predominant error type (16.1%) and differed from substitutions (2.3%) ($p=.001$), which also differed from 'other' errors (9.2%) ($p<.001$). The L2 children also committed more 'other' errors (19.8%) than the other groups, but this difference did not give rise to any interaction with group ($F(4,120)=.1.35$,$p>.2$, $\eta_p^2=.04$).

7.1.2. On-line processing task

Prior to calculating RTs, we calculated the children's accuracy on the comprehension questions in the experiment. Items with erroneous responses to comprehension questions were excluded from the analyses of RTs. Overall, there was an effect of accuracy ($F(2,61)=11.21$, $p<.001$) since the L1-AM children were more accurate in the comprehension questions (mean: 89.5%, SD: 4.9, range: 79%-97%) than the L2 children (mean: 79.3%, SD: 2.2, range: 59%-97) ($p<.001$). The two groups did not differ from the L1-LM children (mean: 84.6%, SD: 9.9, range: 69%-100%) ($p>.1$ in both cases).

To control for the difference in length between the critical segments in the grammatical and ungrammatical conditions, raw RTs were transformed into residual RTs by subtracting from the raw RTs the duration of the audio file for each segment separately. Extreme values were calculated using the boxplot procedure of SPSS. Residual RTs above 2000ms were excluded from the final calculation as extreme values. Outliers were defined as RTs of 2 standard deviations above and below the mean RTs per condition per subject and per item.

The total percentage of extreme values and outliers was 3.6% for the L2 children, 3.5% for the L1 children.

Tables 2 and 3 present the mean residual RTs on the two indefinite semantic contexts by the L2 and the L1-AM and L1-LM children.

INSERT TABLES 2 AND 3 HERE

To examine whether children were sensitive to the omission of articles in the two different semantic contexts, we ran a repeated-measures ANOVA with Specificity (referential specific, non-referential predicational) and Grammaticality as the within subjects factor and Group as the between subjects factor in a per participants (F_1) and a per items (F_2) analysis for each segment separately. We report the RTs from the pre-critical, the critical and the post-critical segments.

Across all segments, there was a main effect of Group, indicating that the L2 children had shorter RTs than both groups of the L1 children (Seg2: ($F_1(2,61)=11.13$, $p<.001$, $\eta_p^2=.28$; $F_2(2,21)=33.65.95$, $p<.001$, $\eta_p^2=.75$; post-hoc: L2 vs. L1-AM: $p=.058$, L2 vs. L1-LM: $p<.001$; Seg3: $F_1(2,61)=11.49$, $p<.001$, $\eta_p^2=.28$; $F_2(2,21)=45.95$, $p<.001$, $\eta_p^2=.81$: post-hoc L2 vs. L1-AM: $p<.05$, L2 vs. L1-LM: $p<.001$; Seg4: ($F_1(2,61)=14.83$, $p<.001$ $\eta_p^2=.33$; $F_2(2,21)=45.95$, $p<.001$, $\eta_p^2=.81$: post-hoc: L2 vs. L1-AM: $p<.001$, L2 vs. L1-LM: $p<.001$). The L1-LM children had longer RTs across segments 2 and 3 compared with the L1-AM children (Seg2: $p<.001$; Seg3: $p<.05$).

For the pre-critical segment (Segment 2), there were no other main effects or interactions.

For the critical segment (Segment 3), we found a main effect of Grammaticality ($F_1(1,60)=99.82$, $p<.001$, $\eta_p^2=.63$; $F_2(1,21)=37.98$, $p<.001$, $\eta_p^2=.64$), because the

ungrammatical conditions had longer RTs than the grammatical conditions, and no other main effect ($F_1(2,60)=1.42$, $p>.2$, $\eta_p^2=.03$; $F_2(2,21)=.42$, $p>.61$, $\eta_p^2=.07$) or interactions.

For the post-critical segment (segment 4), we found a marginal main effect of Specificity in the per participants analysis ($F_1(2,60)=3.86$, $p=.054$, $\eta_p^2=.06$; $F_2(1,21)=.57$, $p>.4$, $\eta_p^2=.03$), because the indefinite specific condition had overall longer RTs than the indefinite predicational condition and no other main effect ($F_1(2,60)=.29$, $p>.7$, $\eta_p^2=.01$; $F_2(2,21)=.98$, $p>.9$, $\eta_p^2=.01$) or interaction.

8. Discussion

The present study examined whether English L2 children from an L1 that grammaticalises specificity and indefiniteness to varying degrees depending on the semantic context will exhibit specificity effects with indefinite articles on a production task. More specifically, we asked whether specificity affects indefinite article production in L2 and L1 children in terms of accuracy and error type. We also examined whether sensitivity to grammatical violations involving omission of indefinite articles is affected by the difference in semantic context.

Turning to the first research question regarding the effects of specificity in production, we found that all groups had higher accuracy on the non-referential predicational condition than on the specific condition for indefinite articles, and that all groups primarily omitted indefinite articles. At the same time, the L2 children had lower accuracy than both L1 groups. However, the L2 children committed very few substitution errors in indefinite specific contexts.

The results from the present study are partly in line with those reported in Ionin et al. (2009), in that the L2 children exhibited a specificity effect in the indefinite article conditions by having higher accuracy on the non-referential predicational vs. the specific indefinite

condition. However, the L2 children in the present study did not exhibit a high proportion of specificity-related errors in the indefinite specific condition. That is, they did not have more substitutions of the indefinite with the definite article in the specific indefinite contexts compared with the non-referential predicational contexts. Contrary to the very few omissions reported in Ionin et al. (2009), the L2 children in the present study predominantly omitted indefinite articles.

The difference between the two studies could be task-related. The task by Ionin et al. (2009) consisted in a written forced-choice gap-filling task, where the children had to choose between the definite and the indefinite article or leave it blank. In this task, the participants could read the sentence multiple times, reflect on it and then choose the target article (definite, indefinite or zero). It may have been the case that this written task biased the participants towards filling in the gap with an overt article rather than leaving it blank (Zdorenko & Paradis, 2011).[4] The indefinite article was also presented in the context of a sentence in multiple syntactic positions across items, for example within prepositional phrases or in object position. This differs from the experimental set-up of the present study, where the felicitous noun phrases were always in the object position and the children had to produce orally a noun phrase with an appropriate article as an answer to a question.

The results from the present study also differ from those reported in Zdorenko and Paradis (2008) who reported that the L2 children substituted the indefinite with the definite article. These differences may also be task-related. The presence of the visual stimuli in Zdorenko and Paradis (2008, 2011) may have prompted higher use of definite articles in place of indefinites given that the visual context may render the entities referential and specific. In the present study, no visual context was provided and, perhaps as a result, very few substitution errors were observed.

[4] As one reviewer points out, written tasks are also not practical with young learners.

The results from the present study are in line with the previous studies by Schafer and de Villiers (2000) and de Villiers et al. (2000), who used a similar methodology as in the present study and reported that preschool and school-aged English-speaking L1 children primarily omitted rather than substituted.

8.1. Fluctuation or Transfer?

The question that arises at this point is what triggers the performance pattern of the L2 children in the present study. More specifically, we asked the question whether the children in the present study transfer the properties from their L1 or whether they fluctuate within the L2 setting by overusing the definite article in specific indefinite contexts. If they transferred the properties from their L1, then we would expect them to perform better on the specific compared to the predicational indefinite contexts, as in the former context the use of the indefinite article is required in their L1 Turkish, whereas in the predicational context, the use of the indefinite article in their L1 is optional. L1 transfer in this context would mean that they would have higher production of the indefinite article in specific indefinite contexts compared to the predicational contexts. If they fluctuated, then they should have shown more substitutions of the indefinite with the definite article in the specific than in the predicational context.

The results from the present study did not provide any evidence for either transfer or fluctuation. Contrary to the transfer predictions, the L2 children performed better on the non-referential indefinite condition compared with the indefinite specific condition, although in Turkish the presence of the indefinite article *bir* is obligatory in the specific context but not in the non-referential contexts. Additionally, the asymmetrical pattern between the two indefinite article contexts was also observed in the L1 groups, where no transfer effects are

possible. We would, therefore, like to propose that the pattern that we find in the L2 children indicates that they are in the process of gradually converging to the L2 article system by re-assembling the relevant semantic features and differentiating between the two indefinite contexts similarly to the L1 children. Re-assembly of semantic features in this case would mean that Turkish-speaking children acquiring English would need to figure out that English grammaticalises indefiniteness and not specificity, and that the indefinite article in English is obligatory in both referential and non-referential contexts involving singular count nouns. This means that the specificity properties of the Turkish accusative case cannot be re-assembled in a single morpheme in English, as both the definite and the indefinite articles can encode specificity. Furthermore, the presence of a morpho-syntactic category in the L1 does not guarantee high performance in the L2 if the spell-out of this category is mediated by different morpho-syntactic or semantic properties in the L2 than the L1 (see Lardiere, 2009). These findings from the English indefinite articles in the present study are in line with the results from the definite articles in the Chondrogianni et al. (2015) study, where definite article production was mediated by semantic context.

In the present study we did not find any evidence to support the FH (Ionin et al., 2004, 2009). The L2 children in the present study had very few substitutions of indefinite articles with definite articles in indefinite specific contexts; importantly, the proportion of substitutions in the indefinite specific context did not differ from the proportion of substitutions in the non-referential predicational context and the L2 children did not differ in their substitutions from the L1 children. Note that in the Ionin et al. (2009) study only a small proportion of L2 children exhibited specificity effects in the indefinite article condition, as opposed to the higher proportion of L2 adults. The results from the present study and from Ionin et al. (2009) may then suggest that fluctuation between specificity and definiteness in

the L2 could be susceptible to age effects and, thus, may not be prominent in child L2 learners of English. This is an issue that merits further future investigation and comparison of different age groups.

There are at least three important differences between the present study and the Ionin et al. (2009) study. As mentioned previously, one is the methodology adopted in the present study, which allowed us to assess the automaticity in the production of the noun phrases unlike in the Ionin et al. (2009) study. The second difference refers to the L1 background of the child L2 groups in the two studies. In the Ionin et al. (2009) study, the L2 children came from a Slavic L1 (Russian), which has no definite or indefinite articles. Ionin et al. (2009) note that the FH has so far been tested only with speakers of languages without any articles. Turkish poses a challenge for this account, as indefiniteness and specificity are both marked within the indefinite noun phrase. It is, thus, expected that the Turkish learner of L2 English will have mapped specificity and indefiniteness distinctly onto the accusative case marker and indefinite article *bir* in their L1 respectively. Therefore, the Turkish learner of English has an advantage over the Russian learner of English in that indefiniteness and specificity are grammaticalised through separate grammatical morphemes in the L1 Turkish. A future comparative study with L2 learners whose different L1s grammaticalise specificity in distinct ways and degrees, would highlight more the predictions of the FH and the issue of transfer in L2 acquisition.

Another difference between the two studies is the context of acquisition as well as the proficiency level of the L2 children. In the Ionin et al. (2009) study, the L2 children had five years of classroom exposure in a non-native context. The L2 children in the present study benefited from both naturalistic and classroom exposure to English. This difference in exposure type may have impacted on both the quantity and quality of input in the two

populations. Additionally, it may be the case that the FH only captures performance at initial stages of acquisition. Although Ionin et al. (2004, 2009) do not make specific reference as to whether fluctuation should be visible only at initial stages of acquisition or persists at later stages, the L2 children in the present study may have been at a more advanced proficiency level compared to the children in the Ionin et al. (2009) study who had five years of non-naturalistic classroom exposure.[5]

Finally, the omissions found in the present study cannot be explained by transfer at the prosodic level, as the PTH would predict. This is because the L2 children in the study performed differently depending on the semantic properties of the same article. This does not exclude that the problems that L2 children have with English articles may be related to the differences in the prosodification in the L1 and the L2. However, prosodic factors alone cannot comprehensively account for the differences in accuracy and error patterns on the indefinite articles in the different semantic conditions.

8.2. Production-processing (a)symmetries

Our final research question addressed the nature of the omission errors that we observed in the L2 children's production data with indefinite articles. The results from the on-line processing task revealed that the L2 children were sensitive to the omission of indefinite articles in the on-line processing task despite variable production. This sensitivity was also observed in the non-referential predicational context where indefinite articles in Turkish are optional, and the two indefinite conditions did not differ from each other. These results are in line with previous studies with L2 children who have reported asymmetries between

[5] However, in Ionin et al. (2004), the L2 learners had between 5 months and 10 years of naturalistic exposure to English in the US. It is, therefore, unclear whether fluctuation could be a persistent, residual problem in L2 acquisition that goes beyond the initial stage.

production and processing and which have shown sensitivity to grammatical violations due to omissions of free morphemes in an on-line processing task (Blom & Vasić, 2011; Chondrogianni & Marinis, 2012; Chondrogianni et al., 2015) and are similar to previous results reported for production-processing asymmetries involving definite articles in the same L1 Turkish L2 English children (Chondrogianni et al., 2015). These results are, therefore, in line with the Missing Surface Inflection Hypothesis (MSIH) (Haznedar & Schwartz, 1997) which postulates that the L2 children's errors are output related and do not reflect problems with grammatical representations.[6]

Finally, we found that the associative relationship between parts of a pair as tested in the predicational condition (*policeman-bat*) facilitated processing and gave rise to overall shorter reaction times in both the L1 and the L2 children in the post-critical segment in this condition compared to the referential specific condition. This semantic effect on processing merits further examination in future studies.

9. Conclusions

The present study investigated L2 children's production of indefinite articles, as well as their sensitivity to the omission of the same morphemes in an on-line processing task. The results from the present study showed that L2 children do not fluctuate in their article use. Finally, the present study highlighted the importance of methodological consistency, when addressing the predictions of language acquisition theories.

[6] Future studies will also need to investigate whether L2 children exhibit specificity effects in an on-line processing task that involves substitutions of indefinite with definite articles. Given that the children in the present study made very few substitution errors in production, we focused on the nature of the omissions in the on-line processing task.

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Table 1. L1 and L2 children's raw scores on the baseline tasks

Group	TROG-2	BPVS-II
L2 children (N=21)		
Mean	9.8	61
SD	3.8	14.4
Range	3-18	39-97
L1-AM (N=30)		
Mean	14.7	90.9
SD	2.7	12.4
Range	8-19	61-119
L1-LM (N=12)		
Mean	12.3	70.7
SD	2.3	11.6
Range	7-16	58-95

TROG-2: Test for the Reception of Grammar (2nd edition); BPVSII: British Picture Vocabulary Scale (2nd edition); L1-AM: Monolingual age-matched children; L1-LM: Monolingual language-matched children

Table 2. Mean residual Reaction Times (RTs) (SDs in brackets) for the grammatical and ungrammatical sentences for indefinite specific articles by L2, L1-AM, and L1-LM children.

	Segment 2 (pre-critical		**Segment 3 (critical)**		**Segment 4 (post-critical)**	
Group	gram.	ungr.	gram.	ungr.	gram.	ungr.
L2	121 (90)	128 (91)	166 (110)	260 (100)	140 (115)	148 (115)
L1-AM	219 (148)	219 (143)	264 (177)	354 (205)	274 (126)	306 (167)
L1-LM	391 (196)	300 (100)	402 (113)	460 (135)	323 (127)	374 (146)

Shaded areas indicate the critical segment. L1-AM: Monolingual age-matched children; L1-LM: Monolingual language-matched children

Table 3. Mean residual Reaction Times (RTs) (SDs in brackets) for the grammatical and ungrammatical sentences for indefinite predicational articles by L2, L1-AM, and L1-LM children.

	Segment 2 (pre-critical		**Segment 3 (critical)**		**Segment 4 (post-critical)**	
Group	gram.	ungr.	gram.	ungr.	gram.	ungr.
L2	121 (91)	141 (99)	151 (107)	263 (99)	138 (103)	126 (126)
L1-AM	218 (215)	190 (148)	266 (130)	360 (213)	261 (149)	247 (134)
L1-LM	349 (179)	297 (166)	371 (146)	539 (217)	342 (122)	334 (127)

Shaded areas indicate the critical segment. L1-AM: Monolingual age-matched children; L1-LM: Monolingual language-matched children

Figure 1. Accuracy (in %) on the indefinite specific and the indefinite predicational conditions by the L2, L1-AM and L1-LM children.

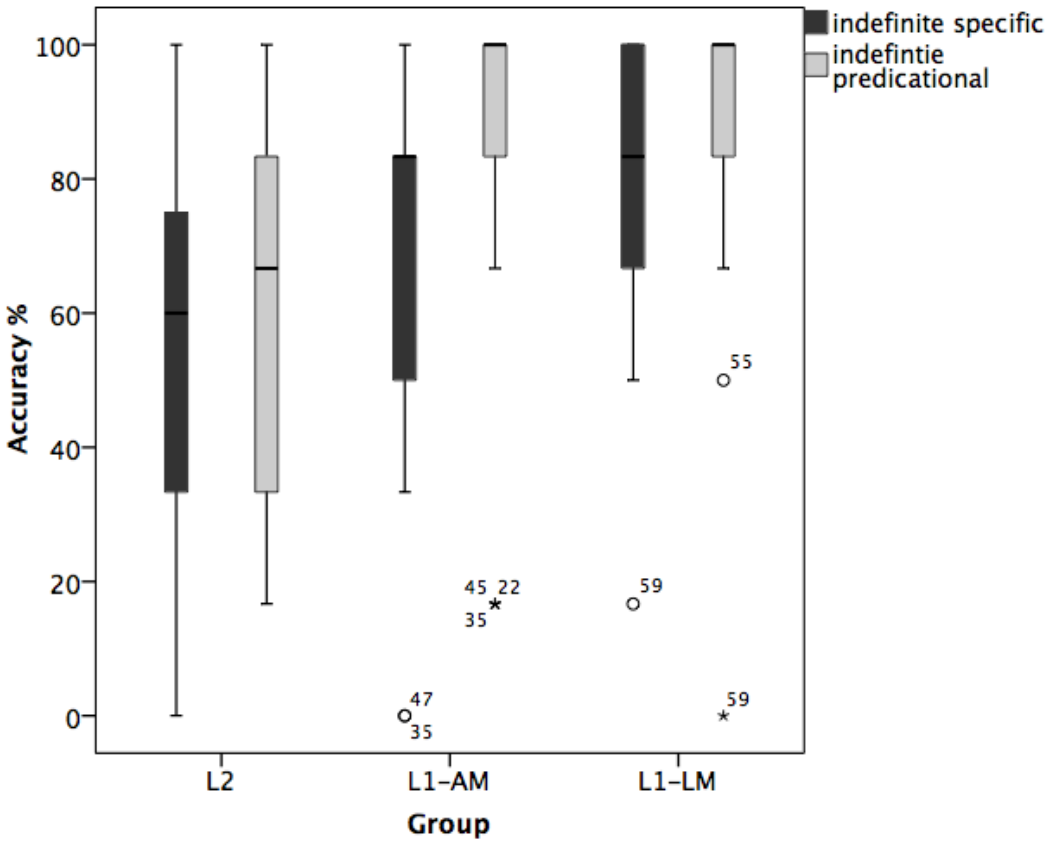
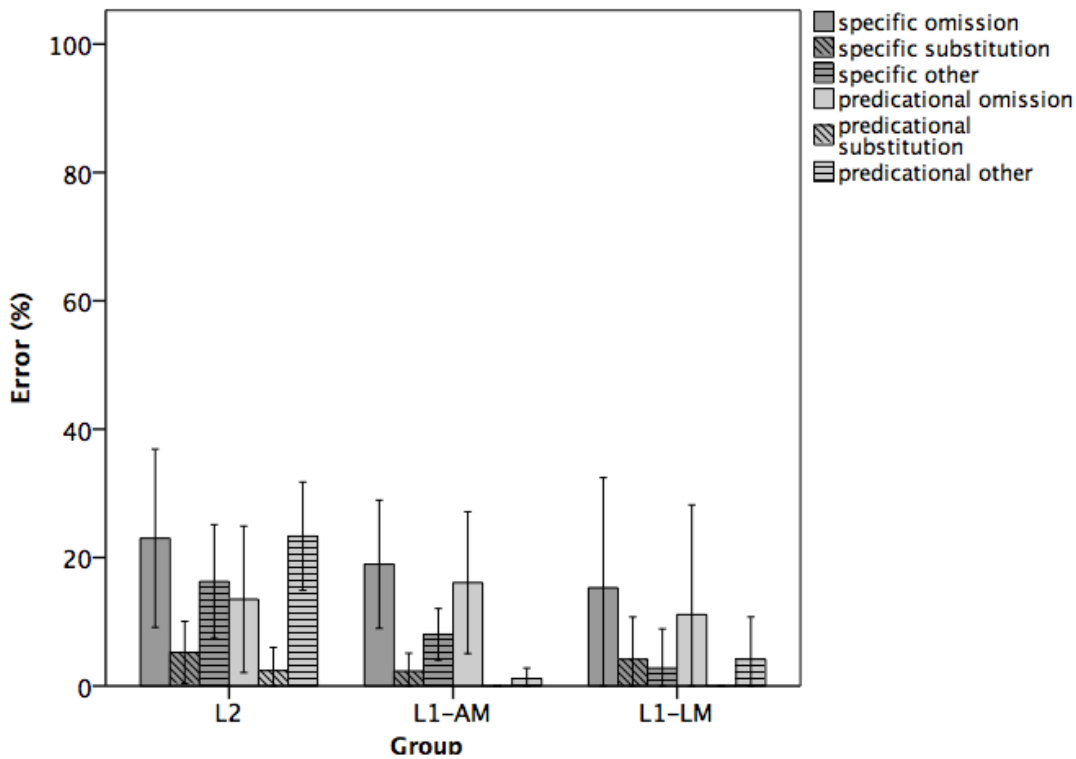


Figure 2. Error rates (in %) on the indefinite specific and the indefinite predicational conditions by the L2, L1-AM and L1-LM children.



Appendix 1 – Items in the production task

1. Indefinite referential specific

1. I bet you have something hanging on the wall of your room. Tell me what it is. – A picture
2. Sam and Mary are out on the pitch kicking something. Tell me what it is – A ball.
3. Peter is at the cinema and he is going to watch something. Tell me what it is – A movie.
4. Mary is buying something for the party she is going to tonight. Tell me what it is – A dress.
5. John is in his room drawing something. Tell me what it is – A picture
6. Clare really misses her friend. He is now in his room writing something to her. Tell me what it is – A letter.

2. Indefinite non-referential predicational

1. Think of a football player. What does he have? – A ball.
2. Think of a cricket player. What does he have? – A bat.
3. Think of a climber. What does he have? – A rope.
4. Think of a tennis player. What does he have? – A racket.
5. Think of a policeman. What does he have? A badge, a car, a helmet, a bat.
6. Think of a painter. What does he have? – A brush.

Appendix 2: Items in the on-line processing task

1. Indefinite referential specific

1. This deer is outside playing with something new that the zebra gave her. The deer / is kicking / (a) balloon / on the pitch / right now.

2. This cat is watching something at the cinema tonight. The cat / is watching / (a) movie / by the sea /this evening.
3. This lion is out shopping for something new to wear at the party. The lion / is buying / (a) belt / at the shop / this afternoon.
4. This wolf is in his room drawing something. The wolf / is drawing / (a) picture / by the lake / at lunchtime.
5. This lamb is planting something new in her garden. The lamb / is planting / (a) flower / in the garden / this afternoon.
6. This leopard is building something with the sand on the beach. The leopard / is building / (a) castle /on the beach /at lunchtime.
7. This horse is cutting something to put in a cake. The horse /is cutting / (a) lemon /by the pond /this morning.
8. This turkey is about to write something to her friend who is away. The turkey / is writing /(a) letter /by the pool this afternoon.

2. Indefinite non-referential predicational

1. This is a fireman. A fireman / has / a blanket / in the garage/ for the fires.
2. This is a football player. A football player / has / a ball / in the park / all the time.
3. This is a cricket player. A cricket player / has/ a bat / on the pitch / every time.
4. This is a climber. A climber / has / a rope/ on the hill / all the time.
5. This is a tennis player. A tennis player / has / a racket / in the yard/ all the time.
6. This is a policeman. A policeman / has / a helmet / at his house / all the time.
7. This is a cook. A cook / has / a glove / on the table / all the time.
8. This is a painter. A painter / has / a brush / in the lounge / all the time.